

IN THE CLAIMS:

Claims 1-43 were previously cancelled. Claims 44, 48, 49, 52, 54-58, 61-64, 66, 68-72, 75, 79, 82, 83 and 85 are currently amended. Claims 45-47, 50, 51, 53, 59, 60, 65, 67, 73, 74, 76-78, 80, 81 and 84 are currently cancelled, all as follows.

Claims 1-43 (Cancelled)

44. (Currently Amended) A method for controlling a temperature of a machine component of a printing press including the steps of:

providing said component of a printing press as one of a printing press roll and a printing press cylinder;

providing a fluid flow path for said printing press component whose temperature is to be controlled, said fluid flow path including a fluid inflow path to a fluid inlet to said printing press component and a fluid return path from a fluid outlet of said printing press component;

providing a temperature regulating fluid;

providing a temperature regulating fluid feed-in point to said fluid inflow path;

locating said temperature regulating fluid feed-in point remote from said fluid inlet to said printing press component whose temperature is to be controlled;

conducting said temperature regulating fluid to said printing press component along said fluid inflow path from said fluid feed-in point;

determining a first measured value of a ~~machine component~~ temperature of said temperature regulating fluid at a first temperature measuring point;

locating said first temperature measuring point in said fluid inflow path remote from said fluid inlet to said printing press component;

determining a second measured value of said ~~a machine component~~ temperature of said temperature regulating fluid at a second temperature measuring point;

locating said second temperature measuring point in said fluid inflow path adjacent said fluid inlet to said printing press component;

~~providing a measuring section on said machine component;~~

locating said first temperature measuring point and said second temperature measuring point spaced apart from each other on said fluid inflow path ~~measuring section;~~

providing a temperature regulating fluid control device;

providing a fluid control actuator in said fluid flow path adjacent said temperature regulating fluid feed-in point;

providing a first, inner control loop and ~~second regulating circuits~~ in said temperature regulating fluid control device;

providing a second, outer control loop in said temperature regulating fluid control device;

connecting said first, inner control loop and said second, outer control loop ~~regulating circuits~~ in a cascade-like manner; and

connecting said temperature regulating fluid control device to said fluid control actuator;

supplying said first measured temperature of said temperature regulating fluid to said inner control loop;

supplying said second measured temperature of said temperature regulating fluid to said outer control loop;

providing a pre-regulation unit and supplying a running time constant of a running time of said temperature regulating fluid in said fluid flow path to said outer control loop;

forming an outer loop corrected command value in said outer control loop using said running time constant and said second measured value of said temperature control fluid at said second temperature measuring point;

supplying said outer loop corrected command value from said outer control loop to said inner control loop;

forming an inner loop corrected command value in said inner control loop using said outer loop corrected command value and said first measured value of said temperature control fluid at said first temperature measuring point;

providing ~~each one of~~ said inner loop corrected command value formed in first and second measured values to an associated one of said first and second temperature regulating fluid control device to said fluid control actuator circuits[.]; and

using said temperature regulating fluid control device for operating said fluid control actuator and controlling said flow of said temperature regulating fluid in said

fluid flow path.

45-47 (Cancelled)

48. (Currently Amended) The method of claim ~~44~~ 47 further including providing a fluid drive mechanism in said fluid inflow path and determining said first measured temperature value after said feed-in point and before said fluid drive mechanism.

49. (Currently Amended) The method of claim ~~44~~ 47 further including providing said second measured temperature measuring point along said fluid inflow path and located, in said a running time of said fluid, further than half of a distance from said feed-in point to said ~~the machine component of a printing press.~~

50-51 (Cancelled)

52. (Currently Amended) The method of claim ~~44~~ 51 further including using a theoretical command variable for forming said outer loop corrected command variable and forming said theoretical command variable in said a pre-regulating member in respect to a heat flow value and taking expected heat and cooling losses in said fluid inflow path ~~measuring section~~ into consideration.

53. (Cancelled)

54. (Currently Amended) The method of claim 44 ~~51~~ further including providing said outer loop a corrected command variable for ~~each of said outer control loop two-regulating circuits~~ and said inner loop corrected command variable for said inner control loop, pre-regulating a specific excess amplitude by using a derivative member for forming said corrected command variables for said inner and outer control loops at ~~least two regulating circuits~~.

55. (Currently Amended) The method of claim 44 ~~51~~ further including determining a number of revolutions of said printing press ~~the machine~~ component and using said number of revolutions for pre-regulation for forming said corrected command variable for at least said inner control loop ~~regulating circuit~~.

56. (Currently Amended) The method of claim 44 ~~51~~ further including pre-regulating actuating member characteristics by using a rise limiter for forming said corrected command variable for at least said inner control loop ~~regulating circuit~~.

57. (Currently Amended) The method of claim 44 ~~50~~ further including providing a third temperature measuring point and a third control loop in said temperature regulating fluid control device ~~circuit~~, determining said temperature at said first, second and third temperature measuring points and supplying said temperatures to respectively one of said first, second and third control loops ~~regulating circuits~~ connected to each other in said a cascade-like manner.

58. (Currently Amended) The method of claim 57 further including determining said ~~third~~ second temperature measured value as a temperature of a surface of said fluid ~~prior to entering the component of a printing press.~~

59-60 (Cancelled)

61. (Currently Amended) The method of claim 57 further including ~~providing a fluid-~~
~~exiting the component and~~ using a temperature of said fluid following its exit from said
printing press ~~the component as said third measured value.~~

62. (Currently Amended) The method of claim ~~44~~ 51 further including providing a ~~first~~
temperature regulating fluid supply circuit, circulating said temperature regulating fluid
from said temperature regulating fluid supply circuit at least partially in said first fluid
flow path circuit, providing said fluid control actuator ~~actuating member~~ as a valve and
controlling said temperature regulating ~~control~~ fluid in said fluid flow path ~~first circuit~~
from said temperature regulating fluid supply ~~second~~ circuit using said valve.

63. (Currently Amended) The method of claim ~~62~~ 51 further including providing a
fluid heating and cooling unit in said temperature regulating fluid supply circuit,
~~providing a fluid circulating circuit and providing said actuating member as an output~~
~~control.~~

64. (Currently Amended) A device adapted to control the temperature of a component of a printing press machine comprising:

one of a printing press roll and a printing press cylinder usable as said component of a printing press and having a fluid inlet and a fluid outlet;

a fluid flow path for said printing press component whose temperature is to be controlled, said fluid flow path including a fluid inflow path to said fluid inlet, and a fluid return path from said fluid outlet;

a temperature regulating fluid supplied to said fluid flow path at a fluid feed-in point located remote from and before, in a direction of fluid flow, said fluid inlet in said fluid flow path;

a first temperature sensor positioned at a first location in said fluid flow path remote from said fluid inlet and intermediate, in said direction of fluid flow, said fluid feed-in point and said fluid flow, said first temperature sensor adapted to provide a first temperature regulating fluid;

a second temperature sensor positioned at a second location in said fluid flow path adjacent said fluid inlet, said second temperature sensor adapted to provide a second temperature of said temperature regulating fluid, said first and second temperature sensors being spaced apart from each other in said fluid inflow path;

means conducting said temperature regulating fluid along said fluid flow path in said direction of fluid flow from said fluid feed-in point to and through said printing press component;

a temperature regulating fluid control device;

a fluid control actuator in said fluid flow path adjacent said temperature regulating fluid feed-in point, said fluid control actuator being responsive to said temperature regulating fluid control device;

a ~~at least~~ first, inner control loop and ~~second regulating circuits~~ in said temperature regulating fluid control device;

a second, outer control loop in said temperature regulating fluid control device;

means connecting said ~~at least~~ first, inner control loop and said second, outer control loop regulating circuits with each other in a cascade-like manner;

a pre-regulating member in at least said second, outer control loop and adapted to form one of a running time constant and a replacement time constant, said running time constant being representative of a running time of said temperature regulating fluid flow path;

means to supply said second temperature to said outer control loop and to combine said second temperature with said running time constant to form an outer control loop corrected command value;

means to supply said outer control loop corrected command value to said inner control loop;

means to supply said first temperature to said inner control loop, for use with said outer loop corrected command value, to form an inner control loop corrected value in said inner control loop; and

a ~~measuring section of the component;~~

~~at least first and second measuring points on said measuring section and
being spaced apart on said measuring section; and~~

means supplying said inner control loop corrected value ~~measured values~~
from said inner control loop of measuring points to said temperature regulating fluid
control device to said fluid control actuator to operate said fluid control actuator and to
control said flow of said temperature regulating fluid in said fluid flow path ~~circuits~~.

65. (Cancelled)

66. (Currently Amended) The device of claim 64 ~~65~~ further including a pre-regulating
member in at least said first, inner control loop ~~regulating circuit~~ and adapted to
generate a theoretical command variable and which takes expected heat and cooling
losses in said fluid flow path ~~measuring section~~ into consideration.

67. (Cancelled)

68. (Currently Amended) The device of claim 64 ~~65~~ further including a derivative
member for each of said at least first and second control loops ~~regulating circuits~~ and
adapted to generate a specific amplitude variation during formation of each said a
command value ~~variable~~.

69. (Currently Amended) The device of claim 64 ~~65~~ further including a pre-regulating

device in at least said first, inner control loop ~~regulating circuit~~ and adapted to take into consideration a number of revolutions of said printing press component ~~the machine~~ in the formation of said inner control loop a command value variable.

70. (Currently Amended) The device of claim 64 ~~65~~ further including a rise limiter provided as a pre-regulating member for at least said first, inner control loop ~~regulating circuit~~ and adapted to include characteristics of said fluid control actuator ~~actuating member~~ during formation of said inner control loop a command value variable.

71. (Currently Amended) The device of claim 64 further including a third control loop ~~regulating circuit~~ in said temperature regulating fluid control device, said first, second and third control loops ~~regulating circuits~~ being connected to each other in said a cascade-like manner, and a third temperature sensor ~~measuring point on said measuring section, each of said third regulating circuits receiving a measured value from one of said first, second and third measuring points which are arranged spaced apart from each other on said measuring section.~~

72. (Currently Amended) The device of claim 64 further including PI regulators in said at least first and second control loops ~~regulating circuits~~.

73-74 (Cancelled)

75. (Currently Amended) The device of claim ~~64~~ 74 further including a fluid conveying drive means in said fluid inflow path, said first temperature sensor ~~measuring point~~ being located downstream of said feed-in point and upstream of said drive means.

76-78 (Cancelled)

79. (Currently Amended) The device of claim ~~64~~ 74 wherein said first temperature sensor ~~measuring point~~ is arranged downstream ~~upstream~~ of said fluid feed-in point at a distance no greater than a two second running time of said fluid.

80-81 (Cancelled)

82. (Currently Amended) The device of claim ~~64~~ 74 further including a pump in said fluid inflow path, said first temperature sensor ~~measuring point~~ being located between said fluid feed-in point and said pump.

83. (Currently Amended) The device of claim ~~64~~ 74 further including a swirl chamber in said fluid inflow path between said fluid feed-in point and said first temperature sensor ~~measuring point~~.

84. (Cancelled)

85. (Currently Amended) The device of claim 64 ~~84~~ wherein said printing press is a dampening agent-free offset printing press.